

***BRAF* MUTATION T1796A IN THYROID CANCERS**

Abstract of the Invention

The *BRAF* gene has been found to be activated by mutation in human cancers, predominantly in malignant melanoma. We tested 476 primary tumors, including 214 lung, 126 head and neck, 54 thyroid, 27 bladder, 38 cervical, and 17 prostate cancers, for the *BRAF* T1796A mutation by polymerase chain reaction (PCR)–restriction enzyme analysis of *BRAF* exon 15. In 24 (69%) of the 35 papillary thyroid carcinomas examined, we found a missense thymine (T)→adenine (A) transversion at nucleotide 1796 in the *BRAF* gene (T1796A). The T1796A mutation was detected in four lung cancers and in six head and neck cancers but not in bladder, cervical, or prostate cancers. Our data suggest that activating *BRAF* mutations may be an important event in the development of papillary thyroid cancer. Moreover, *BRAF* mutation reliably predicts a poor prognosis for papillary thyroid carcinomas.